SEQUENCE LISTING

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<120> ANTI-MICROBIAL PROTEIN

<130> CULLN18.1CP1C1

<150> 09/364395
<151> 1999-07-30

<150> 09/117615
<151> 1998-11-09

<150> PCT/AU97/00052
<151> 1997-01-31

<150> AU PN 7802
<151> 1996-01-31

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<170> FastSEQ for Windows Version 4.0

<210> 1
<211> 102
<212> PRT
<213> Macadamia integrifolia

<400> 1

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Ile Ala Met Ala Ser Glu Met Val Asn Gly Ser Ala Phe Thr Val Trp
            20                  25                  30
Ser Gly Pro Gly Cys Asn Asn Arg Ala Glu Arg Tyr Ser Lys Cys Gly
        35                  40                  45
Cys Ser Ala Ile His Gln Lys Gly Gly Tyr Asp Phe Ser Tyr Thr Gly
    50                  55                  60
Gln Thr Ala Ala Leu Tyr Asn Gln Ala Gly Cys Ser Gly Val Ala His
65                  70                  75                  80
Thr Arg Phe Gly Ser Ser Ala Arg Ala Cys Asn Pro Phe Gly Trp Lys
                85                  90                  95
Ser Ile Phe Ile Gln Cys
            100
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<210> 2
<211> 493
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<213> Macadamia integrifolia

<220>
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<222> (70)...(375)
<223> y=t or c.

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attaagtctt tgagtctcat acatactctt ctcctcccca ccattagcac ttatcagcta 60
acctcagcc atg gct tcc acc aag ttg ttc ttc tca gtc att act gtg atg 111
Met Ala Ser Thr Lys Leu Phe Phe Ser Val Ile Thr Val Met
1 5 10

atg ctc ata gca atg gca agt gag atg gtg aat ggg agt gca ttt aca 159
Met Leu Ile Ala Met Ala Ser Glu Met Val Asn Gly Ser Ala Phe Thr
15 20 25 30

gta tgg agt ggt cca ggt tgt aac aac cgt gct gag cga tat agc aag 207
Val Trp Ser Gly Pro Gly Cys Asn Asn Arg Ala Glu Arg Tyr Ser Lys
35 40 45

tgt gga tgc tca gct ata cat cag aag gga ggc tat gac ttc agc tac 255
Cys Gly Cys Ser Ala Ile His Gln Lys Gly Gly Tyr Asp Phe Ser Tyr
50 55 60

act gga caa act gct gct ctc tac aac cag gct gga tgc agt ggt gtt 303
Thr Gly Gln Thr Ala Ala Leu Tyr Asn Gln Ala Gly Cys Ser Gly Val
65 70 75

gca cac acc agg ttt ggg tcc agt gcc agg gca tgc aac cct ttt ggt 351
Ala His Thr Arg Phe Gly Ser Ser Ala Arg Ala Cys Asn Pro Phe Gly
80 85 90

tgg aag agt atc ttc atc caa tgc tagatttcat aactcttgga tccatcttct 405
Trp Lys Ser Ile Phe Ile Gln Cys
95 100

atgtttttca agtgtataat tagagagatg catggatata taataaataa gtaaaagcta 465
cggtatcacc atgtgatgat tttyaccc 493

<210> 3
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Degenerate primer alpha.

<400> 3 19
ccgaagcagt tgcabgcbc

<210> 4
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Degenerate primer beta.

<400> 4 20
gagmgktatw skaagtgtgg

<210> 5
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> 3' RACE primer alpha.

<400> 5 20
tgctctctac aaccaggctg

<210> 6
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> 5' RACE primer beta.

<400> 6 19
gcattggatg aagatactc

<210> 7
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> 5' RACE primer to anneal with poly-C-tailed cDNA
primer alpha.

<221> misc_feature
<222> (0)...(0)
<223> n = inosine

<400> 7 36
ggccacgcgt cgactagtac gggnngggnn gggnng

<210> 8
<211> 20
<212> DNA
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<220>
<223> Mi28K primer. Mismatched oligonucleotide
containing a mutation of the MiAMP1 coding
sequence from amino acid Q(position 28) to K.

<400> 8 20
gctatacata aaaagggagg

<210> 9
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Mi39K primer. Mismatched oligonucleotide containing a mutation of the MiAMP1 coding sequence from amino acid Q(position 39) to K.

<400> 9
tacactggaa aaactgctgc 20

<210> 10
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Mi46K primer. Mismatched oligonucleotide containing a mutation of the MiAMP1 coding sequence from amino acid Q(position 46) to K.

<400> 10
gcatccagct ttgttgtaga gagc 24

<210> 11
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Mi54V primer. Mismatched oligonucleotide containing a mutation of the MiAMP1 coding sequence from amino acid H(position 54) to V.

<400> 11
ggtgttgcag tgaccaggtt tggg 24

<210> 12
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Mi54K primer. Mismatched oligonucleotide containing a mutation of the MiAMP1 coding sequence from amino acid H(position 54) to K.

<400> 12
ggtgttgcaa aaaccaggtt tggg 24

<210> 13
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer from the 5' coding region of MiAMP1 (Mi1 primer).

<400> 13

acaccatatg agtgcattta cagtatgagt g 31

<210> 14
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer from the 3' coding region
of MiAMP1 (Mi2 primer).

<400> 14
gaagagtatc ttcatccaat gctaaggatc cacac 35

<210> 15
<211> 76
<212> PRT
<213> Artificial Sequence

<220>
<223> Mi28K variant. Variant MiAMP1 protein Mi28K
containing a Lysine at amino acid 28 (used primer
from SEQ ID NO:8 to produce).

<400> 15
Ser Ala Phe Thr Val Trp Ser Gly Pro Gly Cys Asn Asn Arg Ala Glu
1 5 10 15
Arg Tyr Ser Lys Cys Gly Cys Ser Ala Ile His Lys Lys Gly Gly Tyr
20 25 30
Asp Phe Ser Tyr Thr Gly Gln Thr Ala Ala Leu Tyr Asn Gln Ala Gly
35 40 45
Cys Ser Gly Val Ala His Thr Arg Phe Gly Ser Ser Ala Arg Ala Cys
50 55 60
Asn Pro Phe Gly Trp Lys Ser Ile Phe Ile Gln Cys
65 70 75

<210> 16
<211> 76
<212> PRT
<213> Artificial Sequence

<220>
<223> Mi39K variant. Variant MiAMP1 protein Mi39K
containing a Lysine at amino acid 39 (used primer
from SEQ ID NO:9 to produce).

<400> 16
Ser Ala Phe Thr Val Trp Ser Gly Pro Gly Cys Asn Asn Arg Ala Glu
1 5 10 15
Arg Tyr Ser Lys Cys Gly Cys Ser Ala Ile His Gln Lys Gly Gly Tyr
20 25 30
Asp Phe Ser Tyr Thr Gly Lys Thr Ala Ala Leu Tyr Asn Gln Ala Gly
35 40 45
Cys Ser Gly Val Ala His Thr Arg Phe Gly Ser Ser Ala Arg Ala Cys
50 55 60
Asn Pro Phe Gly Trp Lys Ser Ile Phe Ile Gln Cys
65 70 75

<210> 17
<211> 76
<212> PRT
<213> Artificial Sequence

<220>
<223> Mi46K variant. Variant MiAMP1 protein Mi46K containing a Lysine at amino acid 46 (used primer from SEQ ID NO:10 to produce).

<400> 17
Ser Ala Phe Thr Val Trp Ser Gly Pro Gly Cys Asn Asn Arg Ala Glu
1 5 10 15
Arg Tyr Ser Lys Cys Gly Cys Ser Ala Ile His Gln Lys Gly Gly Tyr
20 25 30
Asp Phe Ser Tyr Thr Gly Gln Thr Ala Ala Leu Tyr Asn Lys Ala Gly
35 40 45
Cys Ser Gly Val Ala His Thr Arg Phe Gly Ser Ser Ala Arg Ala Cys
50 55 60
Asn Pro Phe Gly Trp Lys Ser Ile Phe Ile Gln Cys
65 70 75

<210> 18
<211> 76
<212> PRT
<213> Artificial Sequence

<220>
<223> Mi54V variant. Variant MiAMP1 protein Mi54V containing a Valine at amino acid 54 (used primer from SEQ ID NO:11 to produce).

<400> 18
Ser Ala Phe Thr Val Trp Ser Gly Pro Gly Cys Asn Asn Arg Ala Glu
1 5 10 15
Arg Tyr Ser Lys Cys Gly Cys Ser Ala Ile His Gln Lys Gly Gly Tyr
20 25 30
Asp Phe Ser Tyr Thr Gly Gln Thr Ala Ala Leu Tyr Asn Gln Ala Gly
35 40 45
Cys Ser Gly Val Ala Val Thr Arg Phe Gly Ser Ser Ala Arg Ala Cys
50 55 60
Asn Pro Phe Gly Trp Lys Ser Ile Phe Ile Gln Cys
65 70 75

<210> 19
<211> 76
<212> PRT
<213> Artificial Sequence

<220>
<223> Mi54K variant. Variant MiAMP1 protein Mi54K containing a Lysine at amino acid 54 (used primer from SEQ ID NO:12 to produce).

<400> 19
Ser Ala Phe Thr Val Trp Ser Gly Pro Gly Cys Asn Asn Arg Ala Glu

```
 1               5                  10                  15
Arg Tyr Ser Lys Cys Gly Cys Ser Ala Ile His Gln Lys Gly Gly Tyr
            20                  25                  30
Asp Phe Ser Tyr Thr Gly Gln Thr Ala Ala Leu Tyr Asn Gln Ala Gly
        35                  40                  45
Cys Ser Gly Val Ala Lys Thr Arg Phe Gly Ser Ser Ala Arg Ala Cys
    50                  55                  60
Asn Pro Phe Gly Trp Lys Ser Ile Phe Ile Gln Cys
65                  70                  75
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<210> 20
<211> 76
<212> PRT
<213> Artificial Sequence

<220>
<223> Mi46K/54V variant. Variant MiAMP1 protein
Mi46K/54V containing a Lysine at amino acid 46 and
a Valine at amino acid 54.

<400> 20

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Ser Ala Phe Thr Val Trp Ser Gly Pro Gly Cys Asn Asn Arg Ala Glu
 1               5                  10                  15
Arg Tyr Ser Lys Cys Gly Cys Ser Ala Ile His Gln Lys Gly Gly Tyr
            20                  25                  30
Asp Phe Ser Tyr Thr Gly Gln Thr Ala Ala Leu Tyr Asn Lys Ala Gly
        35                  40                  45
Cys Ser Gly Val Ala Val Thr Arg Phe Gly Ser Ser Ala Arg Ala Cys
    50                  55                  60
Asn Pro Phe Gly Trp Lys Ser Ile Phe Ile Gln Cys
65                  70                  75
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<210> 21
<211> 76
<212> PRT
<213> Artificial Sequence

<220>
<223> Mi46K/54K variant. Variant MiAMP1 protein
Mi46K/54K containing a Lysine at amino acid 46 and
a Lysine at amino acid 54.

<400> 21

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Ser Ala Phe Thr Val Trp Ser Gly Pro Gly Cys Asn Asn Arg Ala Glu
 1               5                  10                  15
Arg Tyr Ser Lys Cys Gly Cys Ser Ala Ile His Gln Lys Gly Gly Tyr
            20                  25                  30
Asp Phe Ser Tyr Thr Gly Gln Thr Ala Ala Leu Tyr Asn Lys Ala Gly
        35                  40                  45
Cys Ser Gly Val Ala Lys Thr Arg Phe Gly Ser Ser Ala Arg Ala Cys
    50                  55                  60
Asn Pro Phe Gly Trp Lys Ser Ile Phe Ile Gln Cys
65                  70                  75
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